

## STATEMENT Y

### **Taste and Odor of Drinking Water from Plastic Piping Systems**

Originally adopted February 2008  
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For over 65 years, the Plastics Pipe Institute (PPI) and our members have been dedicated to promoting the safe use of plastic piping systems by:

1. Contributing to development of standards and codes
2. Educating designers, installers, users and regulators
3. Establishing forums for problem solving and new ideas
4. Maintaining liaison with industry, education and government bodies

In doing so, a commitment to health and safety has always been our highest priority. Working with third-party certifiers, our members demonstrate compliance with drinking water requirements and earn certifications showing that their materials and finished products satisfy the requirements of national and international health standards such as the Safe Drinking Water Act (SDWA) [www.epa.gov/sdwa](http://www.epa.gov/sdwa) and those of Health Canada.

Plastic piping systems have always been designed to provide safe, reliable supply of drinking water without the historic problems of corrosion, leakage, mineral build-up, release of metallic elements into drinking water, or any combination thereof, which may affect its taste and odor. Plastic piping systems are specified by engineers for their performance and are chosen by builders, plumbers and homeowners for their reliability and safety.

The taste and odor of drinking water conveyed through pipes have been studied in North America and Europe since the 1960's, and there is no doubt that this science is both complex and subjective, relying upon the senses of human testers. Before the introduction of crosslinked polyethylene (PEX) plumbing systems in North America in the 1980's, copper tubing was a common indoor plumbing distribution material, replacing galvanized steel, which was used in the decades before. Copper pipes can affect the taste and odor of drinking water, but many people who lived in houses with copper plumbing became accustomed to the taste and odor of water delivered through these metallic pipes. Therefore, a change to another plumbing material could cause a perceived change in the taste and/or odor of drinking water.

The plastic piping industry is highly regulated within USA and Canada, with systems of codes, standards and third-party certifications which are extremely rigorous with regards to pipe materials (ingredients), production controls and finished products.

Related to drinking water safety, all plastic pipe, tubing and system components must comply with federal regulations. NSF/ANSI Standard 61 *Drinking Water System Components - Health Effects* is the legally-recognized national standard in the United States and Canada for evaluating the human health effects of drinking water materials, components and devices, and ensuring that approved materials are safe for drinking water. Most plastic pipe, tubing and system components must also comply with NSF/ANSI Standard 14 *Plastic Pipe System Components and Related Materials* which focuses on other aspects of performance and quality control.

Through these certification processes, certifiers know exactly what materials are used in each pipe or tubing formulation, and the safety of these products is repeatedly verified through frequent unannounced plant inspections. More information about these NSF standards can be found at [www.nsf.org](http://www.nsf.org).

## **Summary**

Experts agree that water chemistry is very complex and many natural environmental factors can affect the taste and odor of treated drinking water every day, regardless of which type of pipe is used to transport it. In fact, water utilities go to great lengths to remove objectionable tastes and odors from municipal drinking water, even when such factors are harmless to human health. But sometimes, slight tastes or odors in drinking water are perceived, regardless of the type of water supply or plumbing material, be it metal or plastic.

PPI members will continue to provide the public with safe and reliable drinking water systems through pipes and tubing produced from CPVC, HDPE, PEX, PP-R, PP-RCT and PE-RT piping systems.

Please visit the PPI website [www.plasticpipe.org](http://www.plasticpipe.org) to obtain additional information on research, education and training, and to link directly to our members' websites.